AMENDMENT

IN THE CLAIMS

Cancel claims 1 through 27.

Please add the following new claims:

--28. Gas microbubbles comprising an amphiphilic surfactant capable of forming gas-containing microbubbles in an aqueous carrier liquid, the microbubbles of a biocompatible ~~halogenated~~ fluorine-containing gas or air are bounded by a gas/liquid interface which comprises as the amphiphilic surfactant at least one saturated phospholipid in lamellar or laminar form.

29. The gas microbubbles as claimed in claim 28, wherein said ~~halogenated~~ fluorine-containing gas is a freon.

30. The gas microbubbles as claimed in claim 29, wherein said freon is a perfluorinated hydrocarbon.

31. The gas microbubbles as claimed in claim 28, wherein said phospholipid has hydrophilic groups selected from the group consisting of choline, ethanolamine, serine, glycerol, pentoses and hexoses.

32. The gas microbubbles as claimed in claim 28, wherein the phospholipid is selected from phosphatidic acid, phosphatidylcholine,

phosphatidylethanolamine, phosphatidylserine, phosphatidylglycerol, phosphatidylinositol, cardiolipin and sphingomyelin.

33. The gas microbubbles as claimed in claim 28, wherein the surfactant further contains substances selected from dicetylphosphate, cholesterol, ergosterol, phytosterol, sitosterol, lanosterol, tocopherol, propyl gallate, ascorbyl palmitate and butylated hydroxy-toluene.

34. The gas microbubbles as claimed in claim 28, wherein said surfactant comprises a lecithin or derivative thereof.

35. The gas microbubbles as claimed in claim 28, wherein the microbubbles containing fluorinated gas are stabilized by monolayers of said surfactant.

36. The gas microbubbles as claimed in claim 28, having an average size of 0.1-10 μm.

37. An aqueous dispersion comprising gas microbubbles as claimed in claim 28.

38. An aqueous dispersion comprising gas microbubbles as claimed in claim 29.

39. An aqueous dispersion comprising gas microbubbles as claimed in claim 30.

40. An aqueous dispersion comprising gas microbubbles as claimed in claim 31.

41. An aqueous dispersion comprising gas microbubbles as claimed in claim 28, containing dissolved viscosity enhancers or stabilizers selected from linear and cross-linked poly- and oligo-saccharides, sugars, hydrophilic polymers and iodinated compounds in a weight ratio to the surfactants comprised between about 1:5 to 100:1.

42. Aqueous dispersion as claimed in claim 41, further comprising up to 50% by weight of non-laminar surfactants selected from fatty acids, esters and ethers of fatty acids and alcohols with polyols.

43. Aqueous dispersion as claimed in claim 42, wherein the polyols are polyalkylene glycols, polyalkylenated sugars and other carbohydrates and polyalkylenated glycerol.

44. Aqueous dispersion comprising gas microbubbbles as claimed in claim 28, containing 10^7-10^8 microbubbles/ml.

45. Aqueous dispersion comprising gas microbubbles as claimed in claim 28, containing 10^8-10^9 microbubbles/ml.

46. Aqueous dispersion comprising gas microbubbles as claimed in claim 28, containing 10^{10}-10^{11} microbubbles/ml.

47. A process for preparation of a contrast agent which comprises generating gas microbubbles comprising amphiphilic phospholipid material capable of formation of gas-containing vesicles in aqueous carrier liquid, said microbubbles containing a biocompatible ~~halogenated~~ fluorine-containing gas.

48. A process as claimed in claim 47 which comprises shaking or sonicating an amphiphile-containing mixture comprising a phospholipid in the presence of a ~~halogenated~~ fluorine-containing gas to generate a liquid dispersion of said gas microbubbles.

49. A process as claimed in claim 48, wherein an aqueous amphiphile-containing mixture comprising a saturated phospholipid is used to generate an aqueous dispersion of air or gas microbubbles.

50. A process as claimed in claim 48, wherein the contrast agent is isolated by freeze drying.

51. A process as claimed in claim 47, wherein said ~~hydrocarbon~~ gas is perfluorinated.

52. A contrast agent prepared by the process of claim 47.

53. A method of enhancing ultrasound images of a vascular system comprising administering to said system a diagnostic ultrasound contrast agent according to claim 52.

54. Microbubbles comprising an amphiphilic phospholipid material capable of formation of gas-containing microbubbles, said microbubbles comprising a physiologically acceptable gas.

55. Microbubbles comprising an amphiphilic phospholipid material capable of formation of gas-containing microbubbles, said microbubbles comprising a fluorine-containing gas.

56. Microbubbles comprising an amphiphilic phospholipid material capable of formation of gas-containing microbubbles, said microbubbles comprising a fluorine-containing freon.--